

SECTION 02920 - LAWNS AND GRASS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in Section 00700.

1.02 GENERAL REQUIREMENTS

- A. Furnish all labor, materials, equipment and tools for grass planting as specified herein. Grass shall be planted in areas indicated on the plans and as listed below:
1. All existing grassed areas that are damaged by construction operations;
  2. Areas that are dug up for utility trenches;
  3. Areas from which existing structures are to be removed;
  4. Areas with "Contract Zone Limits" that are graded and covered with topsoil except areas designated for other plants; and
  5. All other areas within "Contract Zone Limits" that are indicated on the plans to be graded, whether with the addition of screened soil or not, such as slopes of banks, etc.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Grass shall be \_\_\_\_\_.
- At the option of the Contractor, grass planting may be by seeds (plain seeding or by hydro-mulching) or by sprigs.
1. Grass seeds shall be fresh, hulled, and meet the following requirements:
    - Pure Seed 95.0% minimum
    - Crop Seed 1.0% maximum
    - Weed 0.5% maximum
    - Inert Material 5.0% maximum
    - Germination 85.0% minimum
- Grass seeds shall be delivered to the site in unopened, sealed containers, labeled with the brand name and per cent purity. Labeling shall indicate that the seeds passed a certified germination test no more than 12 months prior to use.

For clarity, indicate on site plan all areas to be grassed so that there is no doubt as to the extent of new grassing. If necessary, draw a separate grassing plan. Do not use the term "Lawn Area".

Also, if project is adjacent to a road, indicate any unimproved parkway (area between curb and sidewalk) as a separate contract zone for grassing only.

Make sure that screened soil for general finish grading is specified in the EARTHWORK SECTION. The location and extent of screened soil shall be clearly defined. In general, screened soil is required over all graded area.

Fill in name(s) of grass(es) to be used. Specify "Manienie" grass on flat areas and on banks with slopes up to 3:1. Do not specify Wedelia and Lippia grass for school projects. (For other than school projects, check with appropriate Project Coordinators).

For Hawaii District schools, specify only Australian Carpet Grass. Due to heavy rainfall and poor topsoil in most locations, manienie grass does not hold up.

NOTES TO ARCHITECT

2. Grass sprigs shall be healthy living runners and stolons, a minimum of 6 inches long with at least 3 nodes. After they are dug, they shall be covered and kept moist until planted.
- B. Fertilizer shall be pelleted and shall consist of the following percentages by weight of active ingredients:

1. For First Application:

Nitrogen 16%  
Phosphate 16%  
Potash 16%

2. For Second Application:

Nitrogen 16%  
Phosphate 16%  
Potash 16%

C. Mulch Materials

1. Mulch shall be specially-processed fiber containing no growth or germination-inhibiting factors. It shall be such that any addition and agitation in the hydraulic equipment with seed, fertilizer, water and other additives not detrimental to plant growth, the fibers will form a homogeneous slurry. When hydraulically sprayed on the soil, the fibers shall form a blotter-like ground cover which readily absorbs water and allows infiltration to the underlying soil.
2. Stabilizing and water retaining agent for hydro-mulching option only shall be "Verdyol Super", "Ecology Control M-Binder" or approved equal. Rate of application of "Verdyol Super" shall be 50 lbs./acre and that for "Ecology Control M-Binder" shall be 60 lbs./acre.

- D. Organic Soil Conditioners: **Organic amendments shall be brown, gray, or black in color. It shall be free of live seeds, cuttings, fungus, spores and foul odor. It shall also not contain resins, tannin or other materials in quantities that would be detrimental to plant life.**

**Soil conditioner shall be one, or a combination of the following:**

1. Burnt bagasse mix shall be a mixture of sugar cane ash, aged sugar cane trash and milled forest waste products.

For areas which will be in shade most of the time, such as under building overhangs, in building "nooks", or under large spreading trees with dense foliage, use the following:

In low, hot locales - Buffalo grass (Stenotaphrum secundatum). In high, moist locales-Centipede grass.

Zoysia, if used, shall be permitted only in parking lot medial strips. It shall not be specified for large areas because it is slow growing and expensive.

Modify entire specs as necessary when above grass types are used.

2. Redwood shavings shall be a nitrogen-stabilized compost of redwood material passing through a 1/2" screen.
  3. Peat Moss.
  4. Shredded hapuu shall be finely shredded hapuu fern.
  5. **Macadamia nut husks shall be air-classified fine husk, sifted through a 1/4" screen and free of shells.**
  6. **Composted green waste shall be stabilized compost of recycled green waste material passing through a 1/2" screen. The material shall not contain any treated or painted woods.**
- E. Screened soil for repair work shall be a fertile, friable soil of loamy character, and shall contain organic matter. It shall be obtained from well-drained arable land; be free from weeds, stone and debris; and shall pass a maximum 1/2" screen. Screened soil shall be capable of sustaining healthy plant life. See Paragraph 3.01.D.5. for application.
- F. Water shall be potable.

Since it is difficult and/or very expensive to obtain good soil in the Hilo and Kona areas, contact the appropriate Project Coordinator for guidance. This also applies to screened soil for finish grading which is specified in the Earthwork Section.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION AND WORKMANSHIP

##### A. Site Preparation:

1. Placement of screened soil is specified under "Earthwork" Section. The Contractor shall accept the condition of the site prior to starting work.
2. Before soil conditioning and tilling is started, weeds and other obnoxious vegetation shall be removed by manual or chemical methods.

3. Soil Conditioning and Tilling: The Contractor shall notify the Engineer one day before this work is to be done.

A \_\_\_\_\_ layer of organic soil conditioner shall be placed over all planting areas. The material shall then be roto-tilled a minimum of 2" into the existing soil until the latter is loose and fine textured. All rocks larger than 1" in diameter and all debris such as stumps, roots, wire, grade stakes and other rubbish that are turned up by tilling shall be removed. Tilling shall be omitted on slopes where watering is likely to wash the soil away.

Insert recommended thickness of organic soil conditioner layer.  
(Max. - 2"; min. - 1".)

4. Leveling: Any undulations or irregularities in the surface resulting from tilling or other operations shall be leveled out before planting operations are begun.

B. Planting: The Contractor shall notify the Engineer one day before planting of grass.

1. Immediately prior to planting operations, all planting areas shall be cleared of weeds, debris, rocks over 1" in diameter and clumps of earth that will not break up.
2. Option by Grass Seeding: If grass seeds are used, the following procedure shall be used (NOTE: Contractor should exercise caution in seeding slopes where seeds may be washed away):
  - a. The grass seeds shall be broadcast uniformly by hand or by sowing equipment at the rate of 100 lbs./acre. Half the seeds shall be sown with the sower moving in one direction and the remainder shall be sown at right angles to the first direction.
  - b. The surface shall then be raked to a smooth even plane while the seeds are simultaneously worked into the soil to a depth of about 1/2".
  - c. The surface shall then be smoothed and compacted by means of a culti-packer, roller or other similar equipment weighing 60 to 90 pounds per lineal foot of roller.
  - d. The planted area shall then be watered

sufficiently to provide water penetration to a depth of at least 2" and shall then be kept moist until roots are established.

3. Option by Grass Sprigging

- a. Furrows shall be placed perpendicular to drainage aisles and parallel to contours on slopes and shall be spaced no more than 4" apart.
- b. Fresh sprigs shall be planted in each furrow a maximum of 6" apart and covered with soil to a minimum depth of 2".
- c. The surface shall then be smoothed and compacted by means of a culti-packer, roller or other similar equipment weighing 60 to 90 pounds per lineal foot of roller.
- d. The planted areas shall be watered immediately after rolling in sufficient quantity to provide water penetration to a depth of at least 2" and shall then be kept moist until roots are established.
- e. The area shall then be overseeded with annual rye grass seeds at the rate of 25 pounds per acre.

4. Option by Hydro-Mulching of Grass Seed: This work shall consist of furnishing and applying hulled Bermuda seed, fertilizer, mulch and stabilizing and water retaining agent by hydro-mulching.

- a. The seeds shall be applied at the rate of 100 lbs./acre minimum. Mulch shall be applied at a rate of 500 lbs./acre minimum (31 lbs. per 900 sq. ft.). In every application, complete and uniform coverage of the soil shall be attained.
- b. First application of fertilizer shall be included with mulch and seed.
- c. The hydro-mulch equipment shall be capable of mixing all the necessary ingredients to a uniform mixture and to apply the slurry to provide uniform coverage. Seed, fertilizer, mulch mix and stabilizing water retaining agent shall be applied in one operation by hydraulic equipment made specifically for this use. The equipment shall have a built-in agitation system

with an operating capacity sufficient to keep the mix in uniform distribution until pumped from the tank. Distribution and discharge lines shall be large enough to prevent stoppage and shall be equipped with hydraulic discharge spray nozzles which provide a uniform distribution of the slurry.

- d. Areas inaccessible to hydro-mulching application shall be seeded or hand sprigged and fertilized by approved hand methods.
- e. Water shall be applied immediately following mulching and the planted area shall then be kept moist until roots are established.

C. Application of Fertilizer: The Contractor shall notify the Engineer one day before application of fertilizer.

- 1. Fertilizer shall be distributed uniformly over the planted area.
- 2. The first application of fertilizer shall be applied at the rate of 300 pounds per acre about 2 weeks after grassing and shall be followed by watering. (First application of fertilizer if using hydro-mulching option shall be mixed with the seeded mulch.)
- 3. The second application of fertilizer shall be applied at the rate of 300 pounds per acre about 1 week before the end of the maintenance period and shall be followed by watering.

D. Maintenance:

- 1. General: The Contractor shall be responsible for the proper care of the grassed areas. Maintenance shall include watering, weeding, moving, repairing, regrassing and protection, and shall be required until the entire project is accepted, but in any event for a period not less than \_\_\_\_\_ days after planting of grass.
- 2. Watering: After planting of seeds or grass sprigs or mulching the ground shall be watered as deemed necessary by the Contractor to establish a healthy growth. Watering shall be done in a manner that will prevent erosion due to the application of excessive quantities of water, and the watering

Specify maintenance period: 60 days for 1st increment or large areas; 45 days for 2nd increment or smaller areas.

equipment shall be of a type that will prevent damage to the finished surface.

3. Weeding: Weeds shall be uprooted and removed completely and in no case shall they be allowed to grow and propagate more seeds. Large holes caused by weeding shall be filled with screened soil and raked level.
4. Mowing: Grass shall be mowed to a height of 1" whenever the height of grass becomes 1-1/2".
5. Repairing and Regrassing: When any portion of the surface becomes gullied or otherwise damaged and grass has failed to grow, such areas shall be repaired with screened soil and replanted with grass. Any area of one foot square or more in which grass has failed to grow after 30 days of maintenance shall be regrassed.
6. Protection: The grassed areas shall be protected against traffic so that the grass establishes a healthy growth. Grassed areas damaged by traffic shall be replanted.

### 3.02 ACCEPTANCE OF GRASSING

- A. At the time of acceptance, the grass shall have been well-established and shall be given a final weeding and a final mowing to a height of 1 inch. If the maintenance period has expired before acceptance of the entire project, the Contractor shall continue to maintain the grass until acceptance of the entire project. If the maintenance period should extend beyond acceptance of the entire project, the Contractor shall continue to maintain the grass until the end of the specified period of time required for maintenance.
- B. At the end of the maintenance period, should there appear areas where grass has failed to grow, such areas shall be replanted with grass, refertilized and maintained beyond the maintenance period until a healthy growth is established.

END OF SECTION